

## CLAIMS

1. A piece of apparatus for interference suppression transmission comprising:

reception means for reception of signals sent from  
5 each communication end;

channel estimation means for estimation of the states of channels used by said communication end, based on signals received by said reception means; and

signal transformation means for transformation of signals to be sent to each of said communication end, using said channel estimation results.

2. An apparatus for interference suppression transmission according to claim 1, wherein

15 said reception means receives signals including information on the estimation results of the channels used at reception by each communication end; and

said channel estimation means estimates the states of the channels used at reception by each of said communication ends, based on said information.

20        3. An apparatus for interference suppression transmission according to claim 1, wherein said signal transformation means transforms signals so that each communication end receives signals with cancelled interference between its own signals and those to other  
25 communication ends.

4. An apparatus for interference suppression transmission according to claim 1, wherein said signal

transformation means transforms signals so that each communication end receives signals with cancelled effects of delay waves.

5. An apparatus for interference suppression  
5 transmission according to claim 1, wherein said signal transformation means has training means performing training by use of the channel estimation results, and transforms signals, using said training results,

6. A piece of base station apparatus provided with  
10 a piece of apparatus for interference suppression transmission, wherein said apparatus for interference suppression transmission comprises:

reception means for reception of the signals sent from each communication end;

15 channel estimation means for estimation of the states of the channels used by each of said communication ends, based on the signals received by said reception means; and

20 signal transformation means for transformation of signals to be transmitted to each of said communication ends, using said channel estimation results.

7. A piece of communication terminal apparatus performing radio communication with a piece of base station apparatus provided with a piece of apparatus for interference suppression transmission, wherein said apparatus for interference suppression transmission comprises:

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reception means for reception of the signals transmitted from each communication end; and

channel estimation means for estimation of the states of the channels used by each of said communication ends, based on the signals received by said reception means.

8. A method for interference suppression transmission, comprising:

a reception step for reception of signals transmitted from each communication end;

a channel estimation step for estimation of the states of the channels used by each of said communication ends, based on the signals received by said reception means; and

15 a signal transformation step for transformation of signals to be transmitted to each of said communication ends, using said channel estimation results.

9. A method for interference suppression transmission according to claim 8, wherein

20 said reception step receives signals including information on the estimation results of channels used at reception by each communication end; and

said channel estimation step estimates the states of the channels used at reception by each of said communication ends, based on said information.